

CANADA - AGRICULTURE *Ref. comp*

ADJUSTING LIVESTOCK RATIONS TO AVAILABLE FEED SUPPLIES

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SOME POINTERS ON THE USE OF GRAIN WHERE FODDER SUPPLIES ARE SHORT

Fodder for livestock is short in many sections of Western Canada this year.

Cattle and sheep raisers who have less hay than normal will be substituting with other roughages and grain to carry their stock through the emergency. These alternative feeds provide a satisfactory substitute for hay and pasture but some attention is necessary to the proportions in which they are fed.

Livestock raisers are experienced in adjusting the rations for their stocks to available supplies. Questions do arise, however, as to the extent to which grain can be substituted for hay or other fodder, and the relative value of different grains. The purpose of this pamphlet is to give some general guidance on these points.

MINIMUM ROUGHAGE REQUIREMENTS

Cattle and sheep require a certain minimum amount of roughage in their rations. It is desirable, if possible, to provide at least the following amounts:

- Mature cows - 4 pounds per day
- Yearlings and calves - 2 to 3 pounds per day
- Sheep - $\frac{1}{2}$ pound per day.

If only these minimum amounts of roughage are fed, grain should be added in the following quantities to provide a maintenance ration.

Beef cows (wintering)	6 to 10 lb.	depending on initial condition				
Yearlings	"	4 to 6 lb.	"	"	"	"
Calves	"	3 to 5 lb.	"	"	"	"
Ewes	"	1 to 2 lb.	"	"	"	"

The grain should be rolled or coarsely ground. **In no case should finely ground grain be fed.**

Oat and wheat straw can be used as substitutes for hay in providing minimum roughage requirements. When straw is fed, approximately one additional pound of grain would be required for each three pounds of straw substituted for an equal quantity of hay.

If hay and other roughages are very scarce and expensive in relation to grain, some risk may have to be assumed by feeding less than the desirable minimum amounts of roughage, and more grain. Experienced livestock men might go below these desirable minimum roughage levels without trouble, but the stock should be watched carefully for digestive disorders.

Although a mixture of grain is preferable, wheat can make up the whole of the grain allowance if the specified minimum amounts of roughage are fed. **If it is necessary to go below those minimum amounts of roughage, wheat should be mixed with oats or other bulky feeds and not fed alone.**

COMPARATIVE VALUES OF DIFFERENT FEEDS

Local conditions, and the availability of different feeds will, of course, determine what feeds farmers will use.

If feed has to be purchased, the cost of different feeds in relation to their nutritive value becomes a consideration. The following table shows the relative values of various fodders and grains.

To take an example from the table, if medium quality grass hay costs \$25 per ton a farmer could afford to pay up to \$20.80 for good oat straw, \$14.60 for wheat straw, \$1.25 per bushel for feed wheat, and so on.

Hay		Straw		Grain		
Med. qual. grass hay (6-7% prot.)	Good qual. legume-grass hay (11% prot.)	Oat straw good qual.	Wheat straw	Wheat ¹ (No. 5 or better)	Barley ¹ (1 feed)	Oats ¹ (1 feed)
\$20.00	23.30	16.70	11.70	1.00	0.80	0.57
25.00	29.20	20.80	14.60	1.25	1.00	0.71
30.00	35.00	25.00	17.50	1.50	1.20	0.85

¹ Cost of rolling or grinding should be added to these values.

WATCH THE VITAMIN CONTENT

Since most farmers will likely be feeding minimum quantities of roughage, they should give attention to providing Vitamin A and calcium supplements. Where little green grass has been available during the summer the following amounts of Vitamin A and mineral should be supplied daily.

Vitamins

Calves (400 lb.)	5,000 I.U. ¹
Yearlings (650 lb.)	8,000 I.U.
Pregnant cows (until 2 months before calving)	20,000 I.U.
Cows (last 2 months of pregnancy and during lactation until green grass available)	40,000 I.U.
Sheep (ewes or lambs)	2,000 I.U.

Minerals

Calcium (per day, when fed minimum quantities of roughage)

Calves, yearlings and cows - 1.5 oz. ground limestone or 2 oz.
bonemeal or commercial mineral
supplement of similar composition.

Cows - last 2 months of pregnancy and during lactation until
green grass available: 3 oz. bonemeal.

¹ International Units

